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## Criteria for the selection of radionuclides for targeting nuclear antigens for cancer radioimmunotherapy.

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The potential of utilizing immunoconjugates to selectively deliver radionuclides for the destruction of tumors has stimulated much research activity. From dosimetric and other considerations, the choice of radiolabel is an important factor that needs to be optimized for maximum effectiveness of radioimmunotherapy (RIT). This paper reviews and assesses a number of present and future radionuclides that are particularly suitable for RIT based on the various physical, chemical, and biological considerations. Although intermediate to high-energy beta emitters (with and without gamma photons in their emission) possess a number of advantages for most RIT, the use of alpha, Auger, and short range conversion electron emitters could be attractive for targeting nuclear antigens when the radioimmunoconjugate is internalized into tumor cells. Factors relating to the production and availability of candidate radionuclides as well as their stable chemical attachment to monoclonal antibodies are discussed.

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